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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,543	04/01/2004	Marek Matusz	TH-2458 02 (US) HS:KNL	1003
23632	7590	01/25/2006	EXAMINER	
SHELL OIL COMPANY P O BOX 2463 HOUSTON, TX 772522463			JOHNSON, CHRISTINA ANN	
			ART UNIT	PAPER NUMBER
			1725	
DATE MAILED: 01/25/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/816,543

Applicant(s)

MATUSZ ET AL.

Examiner

Christina Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 16-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/16/05</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 1-15, in the reply filed on November 18, 2005 is acknowledged. The traversal is on the ground(s) that there is no burden of search. This is not found persuasive. While the inventions of Group I and II are classified in the same class, they are not classified in the same subclass and are directed to completely different catalyst configurations, neither of which require any of the particulars of the other. The search for Group I is not required for either Group II or Group III and therefore, the search and examination of the entire application cannot be conducted without serious burden.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 16-21 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on November 18, 2005.

### ***Information Disclosure Statement***

3. The information disclosure statement filed November 16, 2005 fails to comply with 37 CFR 1.97(c) because it lacks a statement as specified in 37 CFR 1.97(e). It has been placed in the application file, but the information referred to therein has not been considered.

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4. The information disclosure statement filed November 16, 2005 fails to comply with 37 CFR 1.97(c) because it lacks the fee set forth in 37 CFR 1.17(p). It has been placed in the application file, but the information referred to therein has not been considered.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Liu et al.

Johnson (US 4,532,231) discloses a catalyst composition comprising silver and an alkali metal promoter such as sodium, potassium, rubidium, and/or cesium (column 1, lines 30-35 and column 2, lines 25-32). It is taught that the catalyst preferably comprises 3-50% by weight silver, more preferably 5-20% by weight silver (column 3, lines 55-60). It is taught that the silver is carried on a porous support material, preferably alpha alumina, having an apparent porosity of 40-60% (column 3, lines 25-30). In an example, Johnson details the use of a hollow cylindrical support 8 mm long having a surface area of 2.1 m<sup>2</sup>/g, an inner diameter of 3mm, an outer diameter of 8mm, and an L/D ratio of 1 (Example 1). The reference details that the catalyst composition is prepared by impregnation (column 3, lines 15-20 and Examples).

The reference does not specifically disclose the water absorption of the support material. However, because the reference details the use of a support material having a high porosity, it is the position of the examiner that the water absorption would inherently be the same. When the examiner has reason to believe that the functional language asserted to be critical for establishing novelty in claimed subject matter may in fact be an inherent characteristic of the prior art, the burden of proof is shifted to Applicants to prove that the subject matter shown in the prior art does not possess the characteristics relied upon. *In re Fitzgerald et al.* 205 USPQ 594.

The difference between the reference and the claims is that the reference does not disclose that the internal diameter of up to about 30% of the outer diameter. In an example, the inner diameter is 37% of the outer diameter. However, it is noted that the instant claims require "about 30%" which would include values slightly higher than 30%. It is the examiner's position that the amounts in question are so close that it is prima facie obvious that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. v. Banner*, 227 USPQ 773.

Additionally, Liu et al. (US 6,511,938) teaches the size and shape of the support (i.e. for silver catalysts useful in the manufacture of ethylene oxide) are variable factors and the particular size and shape selected are peculiar to the reactor employed, the gas flow required, and the pressure drop across the reactor (column 1, line 53 – column 2, line 5).

It is the position of the examiner that the prior art recognizes the shape and configuration of the catalyst support to be a result effective variable and therefore, one

of ordinary skill would have been motivated to optimize the inner/outer diameters of the cylinder taught by Johnson in order to obtain the best results from the catalyst. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the instantly claimed ranges through process optimization, since it has been held that there the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215.

7. Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Liu et al. as applied to claims 1-12 and 14 above, and further in view of Thorsteinson et al.

The teachings of Johnson in view of Liu et al. are as described above for claims 1-12 and 14.

The modified disclosure of Johnson further does not disclose a combination of promoters as required by claims 13 and 15.

Thorsteinson et al. (US 5,187,140) discloses a silver containing catalyst useful in the production of ethylene oxide which further contains one or more promoters, including alkali metals, rare earth metals, rhenium, sulfur, molybdenum, tungsten, and chromium (columns 11-14).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have further modified to the composition taught by Johnson to include the additional promoters taught by Thorsteinson et al. in light of the teaching by

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Thorsteinson et al. that such promoters are conventional in silver catalysts for the production of ethylene oxide and may be used in combination. Because all of the catalysts taught by the prior art are used in the same process of use, one would have a reasonable expectation of success from the combination.

### ***Response to Arguments***

8. Applicant's arguments filed November 18, 2005 have been fully considered but they are not persuasive.

Applicant argues that there is no authority to support the statement that one skilled in the art would recognize that "about 30" could include the value of 37% taught by the primary reference. However, the examiner would submit that "about 30" would include values slightly higher than 30% and further 37% is so close to "about 30" that prima facie one would expect the same results from the support material. Applicant has not presented any evidence tending to rebut the prima facie case of obviousness set forth by the examiner, i.e. such as by showing vastly and unexpectedly different results or properties from "about 30" to "37%."

Applicant further argues that there is no generic disclosure found in the prior art that the parameter claimed is a result effective variable and as such, there is no motivation to optimize the inner/outer diameters of the cylinder. The examiner disagrees. The secondary reference clearly recognizes the configuration of the support to be a result effective variable. Refer to columns 1-2 of the Liu reference. Therefore,

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one of ordinary skill would have been motivated to optimize the parameters of the support, including the inner/outer diameters.

With respect to the rejection of claims 13 and 15, applicant argues that the Thorsteinson et al. reference does not teach the claimed inner/outer diameter parameter. However, it is the position of the examiner that such a parameter is rendered obvious by the Johnson and Liu references. The Thorsteinson et al. reference is relied upon only to teach the claimed promoters.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Johnson whose telephone number is (571)




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272-1176. The examiner can normally be reached on Monday-Friday, 7:30-5, with Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Christina Johnson  
Primary Examiner  
Art Unit 1725

1/23/06

CAJ  
January 23, 2006